

EXPRESS MAIL NO.: EL773171172US
PATENT

#5

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants : Christen M. Anderson et al
Filed : March 14, 2001
For : PRODUCTION OF ADENINE NUCLEOTIDE
TRANSLOCATOR (ANT), NOVEL ANT LIGANDS
AND SCREENING ASSAYS THEREFOR

Docket No. : 660088.420D3

Date : March 14, 2001

Box Patent Application
Commissioner for Patents
Washington, DC 20231



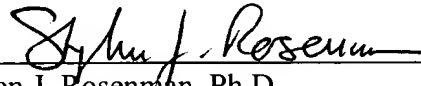
INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents:

In accordance with 37 C.F.R. §§ 1.56 and 1.97 through 1.98, applicants wish to make known to the Patent and Trademark Office the 44 references set forth on the attached Form PTO-1449. This application is a divisional and relies, under 35 U.S.C. § 120, on the earlier filing date of prior Application No. 09/393,441, filed September 8, 1999. The references listed on the attached Form PTO-1449 were submitted to and/or cited by the Patent and Trademark Office in this prior application and, therefore, are not required to be provided in this application. If the Examiner wishes, copies will be provided upon request. As to any reference made of record on the attached forms PTO-1449, applicants do not admit that it is "prior art" under 35 U.S.C. §§ 102 or 103, and specifically reserve the right to traverse or antedate any such reference, as by a showing under 37 C.F.R. § 1.131 or other method. Although the aforesaid references are made known to the Patent and Trademark Office in compliance with applicants' duty to disclose all information they are aware of which is believed relevant to the examination of the above-identified application, applicants believe that their invention is patentable.

Please acknowledge receipt of this Information Disclosure Statement and kindly make the cited references of record in the above-identified application.

Respectfully submitted,
Seed Intellectual Property Law Group PLLC

A handwritten signature in black ink, appearing to read "Stephen J. Rosenman", is written over a horizontal line.

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Enclosures:
Form PTO-1449 (4 Sheets)

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FORM PTO-1449
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PATENT AND TRADEMARK OFFICEATTY. DOCKET NO.
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Jc821 U.S. PTO
09/810644

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U.S. PATENT DOCUMENTS

*EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
AA						

FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	TRANSLATION	
					YES	NO
	AB	EP 0 130 074 A	01/02/85	EPO		
	AC	EP 0 477 961 A	04/01/92	EPO		
	AD	EP 0 770 610 A	05/02/97	EPO		
	AE	WO 98/19714	05/14/98	WIPO		
	AF	WO 98/28415	07/02/98	WIPO		X
	AG	WO 99/07845	02/18/99	WIPO		

OTHER PRIOR ART (Including Author, Title, Date, Pertinent Pages, Etc.)

AH	Adrian et al., "Sequences Required for Delivery and Localization of the ADP/ATP Translocator to the Mitochondrial Inner Membrane," <i>Molecular and Cellular Biology</i> 6(2):626-634, 1986.
AI	Aquila et al., "Complete Amino Acid Sequence of the ADP/ATP Carrier from Beef Heart Mitochondria," <i>Hoppe-Seyler's Z. Physiol. Chem.</i> 363:345-349, 1982.
AJ	Block et al., "Atractyloside and Bongkreikic Acid Sites in the Mitochondrial ADP/ATP Carrier Protein," <i>FEBS Letters</i> 131(2):213-218, 1981.
AK	Block et al., "Chemical Modifications and Active Site Labeling of the Mitochondrial ADP/ATP Carrier," <i>Methods in Enzymology</i> 125:658-670, 1986.
AL	Block et al., "Fluorescent Probes of the Mitochondrial ADP/ATP Carrier Protein," <i>Methods in Enzymology</i> 125: 639-649, 1986.
AM	Bojanovski et al., "Studies on the Adenine Nucleotide Translocase from Rat Liver Mitochondria," <i>Eur. J. Biochem.</i> 71:539-548, 1976.
AN	Boulay et al., "Photolabeling Approach to the Study of the Topography of the Atractyloside Binding Site in Mitochondrial Adenosine 5'-Diphosphate/Adenosine 5'-Triphosphate Carrier Protein," <i>Biochemistry</i> 22: 477-484, 1983.
AO	Boulay et al., "Synthesis and Properties of Fluorescent Derivatives of Atractyloside as Potential Probes on the Mitochondrial ADP/ATP Carrier Protein," <i>Analytical Biochemistry</i> 128:323-330, 1983.

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* EXAMINER: Initial if reference considered, whether or not criteria is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant(s).

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					YES NO
	BB				

OTHER PRIOR ART (Including Author, Title, Date, Pertinent Pages, Etc.)

	BC	Brandolin et al, "Partial Purification of an Atractyloside-Binding Protein from Mitochondria," <i>FEBS Letters</i> 46(1):149-153, 1974.
	BD	Brandolin et al., "Substrate-Induced Modifications of the Intrinsic Fluorescence of the Isolated Adenine Nucleotide Carrier Protein: Demonstration of Distinct Conformational States," <i>Biochemistry</i> 24:1991-1997, 1985.
	BE	Brunelli and Pall, "A Series of Yeast Shuttle Vectors for Expression of cDNAs and Other DNA Sequences," <i>Yeast</i> 9:1299-1309, 1993.
	BF	Cozens et al., "DNA Sequences of Two Expressed Nuclear Genes for Human Mitochondrial ADP/ATP Translocase," <i>J. Mol. Biol.</i> 206:261-280, 1989.
	BG	Fiore et al., "The Mitochondrial ADP/ATP Carrier: Structural, Physiological and Pathological Aspects," <i>Biochimie</i> 80:137-150, 1998.
	BH	Giraud et al., "Expression of Human <i>ANT2</i> Gene in Highly Proliferative Cells: GRBOX, a New Transcriptional Element, Is Involved in the Regulation of Glycolytic ATP Import into Mitochondria," <i>J. Mol. Biol.</i> 281:409-418, 1998.
	BI	Green and Reed, "Mitochondria and Apoptosis," <i>Science</i> 281:1309-1312, August 28, 1998.
	BJ	Klingenberg et al., "Isolation of the ADP, ATP Carrier as the Carboxyatractylate Protein Complex from Mitochondria," <i>Biochimica et Biophysica Acta</i> 503:193-210, 1978.
	BK	Klingenberg, "The ADP-ATP Translocation in Mitochondria, a Membrane Potential Controlled Transport," <i>J. Membrane Biol.</i> 56:97-105, 1980.
	BL	Klingenberg, M., "Principles of Carrier Catalysis Elucidated by Comparing Two Similar Membrane Translocators from Mitochondria, the ADP/ATP Carrier and the Upcoupling Protein," <i>Annals New York Academy of Sciences</i> 456:279-288, 1985.
	BM	Ku et al., "The Human Fibroblast Adenine Nucleotide Translocator Gene," <i>Journal of Biological Chemistry</i> 265(27): 16060-16063, 1990.

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		DOCUMENT NUMBER	DATE	COUNTRY		TRANSLATION	
						YES	NO
	CB						
OTHER PRIOR ART <i>(Including Author, Title, Date, Pertinent Pages, Etc.)</i>							
	CC	Lauquin and Vignais, "Interaction of [³ H]Bongkreikic Acid with the Mitochondrial Adenine Nucleotide Translocator," <i>Biochemistry</i> 15(11):2316-2322, 1976.					
	CD	Lauquin et al., "Isobongkreikic Acid, a New Inhibitor of Mitochondrial ADP-ATP Transport: Radioactive Labeling and Chemical and Biological Properties," <i>Biochemistry</i> 15(11):2323-2327, 1976.					
	CE	Li et al., "A Human Muscle Adenine Nucleotide Translocator Gene Has Four Exons, is Located on Chromosome 4, and is Differentially Expressed," <i>Journal of Biological Chemistry</i> 264(24): 13998-14004, 1989.					
	CF	Li et al., "OXBOX, a Positive Transcriptional Element of the Heart-Skeletal Muscle ADP/ATP Translocator Gene," <i>Journal of Biological Chemistry</i> 265(33): 20585-20588, 1990.					
	CG	Marzo et al., "Bax and Adenine Nucleotide Translocator Cooperate in the Mitochondrial Control of Apoptosis," <i>Science</i> 281:2027-2031, September 25, 1998.					
	CH	Murdock et al., "Up-Regulation of Nuclear and Mitochondrial Genes in the Skeletal Muscle of Mice Lacking the Heart/Muscle Isoform of the Adenine Nucleotide Translocator," <i>The Journal of Biological Chemistry</i> 274(20):14429-14433, May 14, 1999.					
	CI	Piozzi et al., "Structure of Atroctyloside," Chemical Abstracts Acc. No. 67:117201, 1967.					
	CJ	Piozzi et al., "Struttura dell'attrattiloside," <i>Gazzetta Chimica Italiana</i> 97(6): 935-954, 1967. (English summary on page 936)					
	CK	Plano et al., "Rickettsia Prowazekii and ATP/ADP Translocase," <i>Annals of the New York Academy of Sciences</i> 590: 397-407, 1990.					
	CL	Rosenberg, <i>Protein Analysis and Purification: Benchtop Techniques</i> , Birkhauser, Boston, pp. 335-347, 1996.					
	CM	Roux et al., "Fluorometric Titration of the Mitochondrial ADP/ATP Carrier Protein in Muscle Homogenate with Atractyloside Derivatives," <i>Analytical Biochemistry</i> 234:31-37, 1996.					
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					YES	NO
	DE					
	DF					
	DG					

OTHER PRIOR ART (Including Author, Title, Date, Pertinent Pages, Etc.)

	DH	Santi and Luciani (eds.), <i>Atractyloside: Chemistry, Biochemistry and Toxicology</i> , Piccin Medical Books, Padova, Italy, 1978.
	DI	Smagula and Douglas, "Mitochondrial Import of the ADP/ADP Carrier Protein in <i>Saccharomyces Cerevisiae</i> ," <i>Journal of Biological Chemistry</i> 263(14): 6783-6790, 1988.
	DJ	Sterling, "Direct Thyroid Hormone Activation of Mitochondria: The Role of Adenine Nucleotide Translocase," <i>Endocrinology</i> 119(1):292-295, 1986.
	DK	Stubbs, "Inhibitors of the Adenine Nucleotide Translocase," <i>Pharmac. Ther.</i> 7:329-349, 1979.
	DL	Tjaden et al. "Expression of a Plastidic ATP/ADP Transporter Gene in <i>Escherichia Coli</i> Leads to a Functional Adenine Nucleotide Transport System in the Bacterial Cytoplasmic Membrane," <i>Journal of Biological Chemistry</i> 273(16): 9630-9636, 1998
	DM	Vignais et al., "[60] ³ H- or ³⁵ S-Labeled Atractyloside and Carboxyatractyloside, Atractyloside Derivatives Used for Affinity Chromatography, Photoaffinity Labeling, and Spin Labeling, and ³ H- or ¹⁴ C-Labeled Bongkreikic Acid," <i>Methods in Enzymology</i> 55:518-533, 1979.
	DN	Vignais et al., "Adenosine Diphosphate Translocation in Mitochondria. Nature of the Receptor Site for Carboxyatractyloside (Gummiferin)," <i>Biochemistry</i> 12(8): 1508-1519, 1973.
	DO	Yan and Sohal, "Mitochondrial Adenine Nucleotide Translocase is Modified Oxidatively During Aging," <i>Proc. Natl. Acad. Sci. USA</i> 95:12896-12901, October 1998.

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